OBPRODUCT PERFORMANCE / EFFICACY REVIEW
Mark Suarez, Entomologist - IB

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2 NOV 2005

DATE:	2 November 2005
EPA REG. NUMBER:	269-2668
PRODUCT NAME:	Ortho Homedefense Indoor & Outdoor Insect Killer
REGISTRANT:	The Ortho Business Group
PM:	George LaRocca, PM 13
REVIEWER:	BeWanda Alexander
DECISION #:	357464
DP BARCODE:	318491
ACTION:	R34
ACTIVE INGREDIENT(S):	128825, Bifenthrin.....0.05%
TYPE:	Liquid, RTU
OPPTS GUIDELINE(S):	810.1000 810.3000 810.3500
MRID:	46553201
GLP ?:	No.
SITES:	Indoor Residential
PESTS:	Crickets, ants (including harvester ants), spiders, scorpions
STUDY APPLICATION RATE:	"to achieve good coverage"
LABEL APPLICATION RATE:	"until slightly wet without soaking"

STUDY SUMMARIES:

MRID 46553201. *McDonald, C. (2003) Evaluation of Residual Efficacy of Ortho Home Defense Indoor & Outdoor Insect Killer (EPA Reg. No. 239-2663) Against Multiple Arthropod Pests. 8p.*

The submitted study tested the residual activity of the subject formulation. Polypropylene containers were treated "to achieve good coverage" and stored in the laboratory "under ambient conditions". No information was presented regarding the exposure of treated containers to light. The efficacy demonstrated against crickets (*Acheta domesticus*), Western Harvester Ants (*Pogonomyrmex occidentalis*), Wolf Spiders (*Lysoca* spp.), and Striped-Tail Scorpions (*Vejovis spinigerus*) was recorded (Table 1). The exposure interval was not clearly presented, but appears to have been approximately 24 hours (Based upon information provided on the raw data sheets.) For each arthropod three replicates were run for both the treatment group and the control. The experimental protocol for control arthropods was not described.

Arthropod	Number of Individuals/Replicate	Months after Treatment	% Mortality
Harvester Ant	10	18	100
Striped-Tail Scorpion	1	18	100
Wolf Spider	1	19	100
Cricket	5	20	100

Table 1. Efficacy of treated polypropylene containers against arthropod species, time since treatment, and mean mortality observed.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS:

The data submitted indicate that the formulation when applied to polypropylene surfaces can be efficacious for greater than the 12 month claim requested. The product was, without variability, entirely efficacious against the organisms tested. However, the level of detail provided in the study precludes determination of the effectiveness of the formulation under actual field conditions.

In the future, data should be submitted with an explicit description of the experimental procedure that permits proper evaluation of the study (e.g., quantitative application rate, complete description of trial conditions [quantitative light and temperature measurements], description of control animal treatment, etc...). The registrant is encouraged to discuss or submit protocols to the Agency for review prior to study initiation.

Recommendations:

1. Based upon the data submitted, 12 month residual claims for indoor and pantry application of the formulation are acceptable for the following arthropods:
    a. Spiders (with the exception of Black Widow and Brown Recluse Spiders)
    b. Crickets

2. Based upon the data submitted, 12 month residual claims for indoor and pantry application of the formulation are conditionally acceptable for the following arthropods:
    a. Ants (excluding Fire, Pharaoh's, and Carpenter Ants)
    b. Scorpions

The addition of the pests above is conditional based upon the submission of corroborative data, based upon studies as described below in #3, within one year.

3. Increasing the length of residual claims for other pests of public health importance will require the submission of corroborative data from a study conducted under normal use conditions (including, but not limited to light exposure, surface types, application rate, exposure duration, etc...). The length of residual claims on the label may not be modified for the following insects currently listed on the product label:
    a. Black Widow Spider
    b. Brown Recluse Spider
    c. Carpenter Ants
    d. Centipedes
    e. Foraging Fire Ants
    f. Fleas
    g. Flies
    h. Houseflies
    i. Mosquitoes
    j. Roaches
    k. Ticks (including ticks that *may* transmit Lyme Disease)

Enclosure
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